



# GDOT Publications

## Policies & Procedures

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**Form Word:** 2445-1h - Section 951 - Cable Systems

**Section:** Specifications Guidelines

**Office/Department:** Office of Engineering Services

**Reports To:** Engineering Services

**Contact:** 404-631-1000

See [Below](#)

# DEPARTMENT OF TRANSPORTATION

## STATE OF GEORGIA

### SPECIAL PROVISION

#### Section 951 – Cable Systems

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*Add the following:*

##### **951.1 General Description**

This Work consists of furnishing labor, tools, equipment, and other items necessary for the installation, relocation, and adjustment of overhead and underground Cable Systems in accordance with the Project Plans, Owner Standards/Details/Specifications and Related Documents, and Specifications.

##### **951.1.01 Definitions**

General Provisions 101 through 150

Whenever the terms “Owner” or “Sunesys” are used in this Special Provision and its related documents, they mean Sunesys, LLC, its subsidiaries, successors and/or assigns.

Whenever the term “Plans” is used in this Special Provision and related documents, this includes the Cable Relocation Plans.

The term “Owner Project Manager” means the Owner’s authorized individual having the authority to give instructions pertaining to the Work. The Owner Project Manager has authority to approve or reject the Work and otherwise represent the Owner. The Owner Project Manager is not authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, Plans, and Specifications nor will they act as an agent for the Contractor. Ensure Owner Project Manager has access to all of the Work for inspection and testing and is invited to participate in any project meeting where Cable Systems may be discussed.

##### **951.1.02 Related References**

General Provisions 101 through 150

##### **A. Standard Specifications**

[Section 107-Legal Regulations and Responsibility to the Public](#)

[Section 201-Clearing and Grubbing](#)

[Section 205-Roadway Excavation](#)

[Section 207-Excavation and Backfill for Minor Structures](#)

[Section 208-Embankments](#)

[Section 209-Subgrade Construction](#)

[Section 310-Graded Aggregate Construction](#)

[Section 400-Hot Mix Asphaltic Concrete Construction](#)

[Section 441-Miscellaneous Concrete](#)

[Section 444-Sawed Joints in Existing Pavements](#)

[Section 500-Concrete Structures](#)

[Section 810-Roadway Materials](#)

[Section 852-Miscellaneous Steel Materials](#)

[Section 861-Piling and Round Timber](#)

[Section 863-Preservative Treatment of Timber Products](#)

**B. Owner Standards/Details/Specifications and Related Documents**

1. Sunesys Notice to Proceed (NTP)
2. Sunesys Scheduled Maintenance Document (SMR/SM)
3. Sunesys Post Construction Inspection Report/Corrective Action List
4. Sunesys Overhead and Underground Cable Construction Standards, current edition
5. National Electric Code of the National Fire Protection Association, current edition
6. National Electric Safety Code, ANSI – C2 (NESC)

Available from the Institute of Electrical and Electronics Engineers at:

<http://www.ieee.org/portal/site/iportals/>

7. Sunesys' Construction Standards, current edition

Obtain copies of the Owner Standards/Details/Specifications and Related Documents from [www.sunesys.com/contractor](http://www.sunesys.com/contractor) or by contacting:

Sunesys, LLC

Victor Vassalluzzo, Vice President – Operations, Southeast

185 Titus Avenue

Warrington, PA 18976

Phone: (267) 718-0958

If there is a conflict or discrepancy between the Specifications and the Owner Standards/Details/Specifications and Related Documents, perform the Work in accordance with the Owner Standards/Details/Specifications and Related Documents, current editions. If any of the Owner Standards/Details/Specifications and Related Documents are revised after Notice to Contractors date, perform the Work specified in the Plans and Specifications using the revised Owner Standards/Details/Specifications and Related Documents. If revisions to the Owner Standards/Details/Specifications and Related Documents are dated on or after the letting date shown on the bid proposal, notify the Engineer in writing of such revisions.

**951.1.03 Submittals**

General Provisions 101 through 150

Provide submittals in accordance with Sunesys Overhead and Underground Cable Construction Standards, current published edition.

## **A. Completion Letter and As-Built Documentation**

Provide no later than thirty (30) calendar days after the completion of the work a Completion Letter and As-Built Documentation to both the Engineer and the Owner Project Manager consisting of the following information.

1. Include in the Completion Letter the date all Cable System pay items are completed and ready to be turned over to the Owner. Also, include a detailed estimate of quantities in place and explanation of any deviations or overruns.
2. Provide As-Built Documentation of the in-place and accepted Cable System. Documentation shall consist of two sets of full size plans and electronic files in the form of an AutoCAD version 2011 file or the same version and format in which the Cable System Plans were created.

## **951.2 Materials**

### **A. Overhead and Underground Cable System**

Provide any materials required for the construction of proposed Cable System shown on the Plans but not furnished by the Owner. Furnish for the completion of the Work all materials, tools, equipment, and labor in conformance with the Plans and current edition of the Owner Standards/Details/Specifications and Related Documents. When required by the Plans or Owner Standards/Details/Specifications and Related Documents, transfer all existing materials to the required locations as specified. Replace in-kind any existing material damaged during transfer.

### **951.2.01 Delivery, Storage, and Handling**

General Provisions 101 through 150

Coordinate with the Owner Project Manager and Owner representative listed below to ensure all necessary materials are available for installation as required on the Plans, including the roadway staging plans. Follow any delivery, storage and handling procedures set forth in the Owner Standards/Details/Specifications and Related Documents. Coordinate with the Owner to take delivery of required material, load required material, transport all required material to the project, and properly store the material within the project limits or at Owner approved locations off the project limits. Return or dispose of all unused and remaining material as specified in subsection 951.3.05.H.

A bill of material will be provided by the Owner to the Contractor. Provide the Engineer with a copy of the bill of materials each time receipt and delivery of materials is made for the Project. Document all material received from the Owner and all material returned to the Owner. The Engineer and Owner Project Manager will be present when the contractor takes delivery from the Owner and when the Contractor returns material back to the Owner. With the Contractor, the Engineer and Owner Project Manager will verify materials to ensure all material delivered are documented, verified, and acknowledged in writing by all parties. The Contractor is responsible for all materials from the time of delivery from the Owner to the return of remaining materials to the Owner or disposal. The Owner Project Manager will verify and document all in place material and will notify the Engineer of any discrepancies.

Sunesys, LLC

Victor Vassalluzzo, Vice President – Operations, Southeast

185 Titus Avenue

Warrington, PA 18976

Phone: (267) 718-0958

### **951.3 Construction Requirements**

### **951.3.01 Personnel**

General Provisions 101 through 150

Contractors or Subcontractors performing work consisting of the construction and installation of Cable Systems must be prequalified with the Owner and registered with the Department. Contact the Owner representative listed below to obtain a list of prequalified Cable System contractors. Cable System contractors or subcontractors not prequalified with the Owner will not be approved to perform the Cable System work.

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### **951.3.02 Equipment**

General Provisions 101 through 150

Ensure all equipment used is in conformance with the requirements and standards set forth in the Owner Standards/Details/Specifications and Related Documents. Obtain prior approval from the Engineer and Owner Project Manager before starting Work on specialty items such as fiber splicing equipment, boring equipment and others of similar complexity.

### **951.3.03 Preparation**

General Provisions 101 through 150

Follow all preparation procedures set forth in the documents referenced in the Owner Standards/Details/Specifications and Related Documents. Perform necessary preliminary engineering, field engineering, survey, and construction staking and layout for the installation of the specified Cable System.

### **951.3.04 Fabrication**

General Provisions 101 through 150

Ensure fabrication procedures and requirements conform to those set forth in the current edition of the Owner Standards/Details/Specifications and Related Documents. Submit shop drawings to the Engineer and Owner Project Manager for any items requiring fabrication. Obtain approval from the Engineer and Owner Project Manager prior to ordering materials.

### **951.3.05 Construction**

Review the Plans and Owner Standards/Details/Specifications and Related Documents to ensure all items required for the Work are included in the price bid for each Cable System bid item. Provide a detailed list of materials required to complete the Work to the Engineer and Owner Project Manager prior to ordering and taking delivery from Sunesys. In the required detailed list of materials, identify any material required to complete the Work not shown in the Plans. Communicate with the Owner Project Manager to insure the Owner is given 30 (thirty) calendar days notice for the Owner's portion of the Work.

#### **A. Permission to Enter Private Property**

Comply with Section 107—Legal Regulations and Responsibility to the Public.

Through an agreement between the Department and the Owner; the Contractor is given the permission to enter upon private properties found outside the project's construction limits. This permission is granted for the sole purpose of activities relating to the installation and/or adjustments of Cable Systems only and is limited to the area of existing easements obtained by the Owner. Such permission to enter upon private properties is temporary and such rights commence upon project award and automatically expire upon completion and project final acceptance by the Department.

In all cases where it is necessary to enter upon private property; take sole responsibility for and minimize any disruptions to personal property in the commencement of such work thereof. Additionally, comply with the following restrictions and requirements:

Limit all activities to the installation, relocation, or replacement of Cable Television facilities; and, work necessary to restore each private property as required in subsection 951.3.05.A.6.

Notify the Engineer, the private property owner and resident(s) 72 hours before commencing Work on said private property.

Ensure only vehicles and equipment required for the Work are allowed on any private property.

Do not store any materials, vehicles, or equipment on any private property longer than the duration required to perform the Work.

Do not use any private property as an on-site detour or vehicle path.

Immediately following any construction located on private property, restore all areas of the same parcel to a condition substantially the same as existed immediately prior to any such disturbances, including without limitation, any and all necessary repairs, and replacement of grassing, landscaping and pavement which may be removed and excavated by the Contractor. Ensure all necessary repairs are made to restore the original contours and re-establish the ground cover to control erosion.

#### **B. Customer Notification Requirements**

Follow all customer notification requirements as provided by the Owner and obtain approval from the Owner Project Manager prior to disrupting existing services required for the installation of the Cable Systems shown on the Plans.

#### **C. Installation of Cable Systems**

Follow all relevant procedures set forth in the current editions of the Owner Standards/Details/Specifications and Related Documents. Construct all temporary and proposed Cable Systems in accordance with the requirements set forth in the Contract, current editions of the Owner Standards/Details/Specifications and Related Documents, and as instructed by the Owner Project Manager.

#### **D. Excavating Trenches**

Excavate trenches to the proper grade, depth, and width as follows:

##### **1. Trench to Grade**

Ensure excavated trench bottoms are firm, free from boulders, and conform to the established grade.

- a. Backfill, according to [Section 207](#), any part of the trench excavated below the established grade. Use Class I or Class II Soils ([Section 810](#)), and firmly compact the soil.
- b. Where the established grade of a trench is in rock, undercut the bottom of the trench by at least 6 in (150 mm), then backfill and compact according to [Section 207](#).
- c. Conduct blasting operations according to [Subsection 107.12](#).

d. Excavate trenches under pavement to grade as follows:

- 1) To remove the pavement, cut it at least 12 in (300 mm) wider than each trench edge to provide solid bearing for the pavement edges when replaced. Remove the pavement according to [Section 444](#), except no separate payment will be made for sawed joints.
- 2) Directional bore under existing sidewalks, curbs, gutters, and pavements according to subsection 951.3.05.E

#### Minimum Trench Depth

Excavate trenches to provide at least 48 in (1.2 m) cover depth from the Work to the finished pavement surface, sidewalk, grass plot, etc. unless indicated otherwise on the Plans or by the Engineer.

If any part of a Cable System is to be placed in or under a new embankment, finish the embankment to at least a 2 ft. (600 mm) plane above the top of the proposed facility before excavating the trench.

#### Trench Width

Excavate trenches wide enough to allow proper installation of the Work.

### E. Directional Boring

This Work consists of installing various sizes of bores by directional boring through whatever materials may be encountered.

Furnish, for the Engineer's approval, a plan showing the proposed methods for the installation of the horizontal directional bore. The Engineer will review the proposed installation plan within 10 working days of receipt by the Department. No directional boring Work will be allowed until the Contractor's submitted plan is approved by the Engineer. Include the following detail in the plan, as a minimum:

1. List of projects completed by the company performing the boring operation, environment of installation (urban work, river crossing, freeway), diameter of product installation and length of bores. Include the name, address and phone number of an owner's representative with knowledge of the performance of the Work. Provide at least five previously completed projects of similar scope as the boring Work included in this contract.
2. List of the Contractor's key personnel with a resume of boring experience. The Department will be the sole judge of the qualifications of the foreman and the drill operators.
3. Location of all proposed boring entry and exit pits.
4. Proposed alignment of bore both horizontal and vertical. For the proposed alignment, maintain a minimum clearance of 18 inches (450 mm) or 2 times the diameter of the final product installation, whichever is greater, at any obstruction. Do not perform boring in select backfill areas such as at mechanically stabilized wall locations.
5. Proposed diameter of bore. This diameter is the diameter of the final product installation.
6. Proposed diameter of pilot borehole.
7. Proposed diameter of back reamer. Do not allow the diameter of the back reamer to exceed 1.5 times the diameter of the final product installation.
8. Proposed depth of cover. Ensure the depth of cover will be equal to or greater than 10 times the diameter of the final product installation. Under paved shoulders, maintain a minimum depth of cover of 4 feet (1.22 meters). Under travel lanes or outside of paved shoulders, maintain a minimum depth of cover of 8 feet (2.44 meters).
9. Evaluation of soil conditions to be encountered. A complete soil survey is not required. As a minimum, excavate the entrance and exit pits for the proposed bore and determine the nature of the material likely to be

encountered. Base the drilling fluid composition on the evaluation of the materials encountered in the bore pit excavation.

10. Proposed composition of drilling fluid.
11. Proposed drilling fluid pressure and flow rates.
12. Proposed drilling fluid management plan.
13. Proposed pull back rate.
14. Type of tracking system.

Excavate suitable pits or trenches for the boring operation and for placing end joints or termination connectors of conduit when required. Securely sheet and brace pits or trenches where necessary to prevent caving. Where directional boring is required under railroads, highways, streets or other facilities, perform construction in a manner that will not interfere with the operation of the facility, and not weaken the roadbed or structure. Do not disturb or excavate any roadway pavement, subgrade, roadbed, paved shoulder, or unpaved median as part of the boring or pipe placing operation for any reason without written authorization by the Engineer.

In the above areas, unless otherwise authorized in writing by the Engineer, abandon in place any broken or damaged boring rod/stem, boring head (including transmitter/transponder locating heads and cutter heads), couplings (including back reaming, swivel or connector couplings), or any other material that cannot be retrieved as part of the pullback operation. Abandoned material will become the property of the Department. No additional payment for abandoned material will be made.

Continuously monitor the location and alignment of the pilot drill progress to insure compliance with the proposed installation alignment and to verify depth of the bore. Accomplish monitoring by manual plotting based on location and depth readings provided by the locating/tracking system or by computer generated bore logs which map the bore path based on information provided by the locating/tracking system. Obtain readings or plots on every drill rod and provide to the Engineer on a daily basis for as-built plans.

Monitor drilling fluids such as the pumping rate, pressures, viscosity and density during the pilot bore, back reaming, and/or pipe installation stages to ensure adequate removal of soil cuttings and to ensure the stability of the borehole is maintained. Do not allow drilling fluid pressures to exceed that which can be supported by the overburden (soil) pressure to prevent heaving or a hydraulic fracture of the soils. Contain excessive drilling fluids at the entry and exit points until recycled or removed from the site. Dispose of all drilling fluids in a manner acceptable to the appropriate local, state and federal regulations. The Work will be immediately suspended whenever drilling fluids seep to the surface other than in the boring entrance or exit pit. Propose a method to prevent further seepage and remove and dispose of any drilling fluid on the surface prior to resuming the boring operation.

To minimize heaving during pullback, determine the pullback rate to maximize the removal of soil cuttings and minimize compaction of the ground surrounding the borehole. Ensure the pullback rate minimizes over cutting of the borehole during the back reaming operation to ensure excessive voids are not created resulting in post installation settlement. Restore any surfaces damaged by the Work to their preconstruction conditions. All costs associated with the restoration are to be borne by the Contractor.

The distance the excavation extends beyond the end of the bore will depend upon the character of the excavated material. Do not exceed 2 feet (0.61 meters) in any case. If the character of the material being excavated makes it desirable, decrease the distance on instructions from the Engineer. Once the directional boring has commenced, insofar as practical, continue the operation without interruption. After the boring has been completed, immediately backfill the pits or trenches excavated to facilitate boring operations.



Proceed with the Work from a surface staging area provided for the boring equipment and workers. Obtain approval from the Engineer on the proposed location of the staging area. Bore the holes mechanically. Place excavated material near the top of the working pit and dispose of as required. Water or other fluids in connection with the boring operation will be permitted only to the extent necessary to lubricate cutting. Do not perform jetting.

Excavation will not be measured for payment.

In unconsolidated soil formations, a gel-forming colloidal drilling fluid consisting of at least 10% high grade carefully processed bentonite may be used to consolidate excavated material, seal the walls of the hole, and furnish lubrication for subsequent removal of material and immediate back reaming/installation of conduit. Continuously monitor and maintain the flow pressure on the drilling fluid at the minimal pressure required to place the fluid. In normal circumstances, do not exceed a flow pressure of 200 psi (1379 k Pa). At any time during boring operations, do not exceed a flow pressure of 500 psi (3448 k Pa). Remove all drilling fluid spoils from both ends of the bore and properly dispose of material at a properly permitted location.

Limit allowable variation from line and grade to a maximum of 2 percent.

Pressures grout any voids that develop during the installation operation and are determined by the Engineer to be detrimental to the Work with an approved mix.

Directional boring operations inherently include the risk of encountering below grade obstructions that begin to alter the bore direction. Should an obstruction be encountered, notify the Engineer immediately. Attempt to restore the bore alignment by performing a minimum of three attempts at each encountered obstruction with different corrective measures. Boring deeper or shallower (if minimum conduit depth can be maintained), moving the boring head to the right or left of the obstruction, or attempting to bore through the obstruction (if other than solid rock) are acceptable corrective measures to restore bore alignment. The Engineer may authorize a relocation of the bore if a suitable bore alignment cannot be restored.

#### **F. Removals**

Remove all temporary and existing Cable Television facilities in accordance with the requirements set forth in the Plans, Owner Standards/Details/Specifications and Related Documents, and as instructed by the Owner Project Manager. Cutting of poles specified for removal or abandonment will not be permitted. Remove pole(s) and backfill void in accordance with Section 207. Backfill any voids remaining from the removal of underground facilities in accordance with Section 207. Replace, in-kind (material and depth), any voids remaining in roadway structures.

#### **G. Transfers**

Transfer all Cable Systems in accordance with the requirements set forth in the Plans, Owner Standards/Details/Specifications and Related Documents, and as instructed by the Owner Project Manager.

#### **H. Remaining Material**

##### **1. Material Originating from The Owner:**

Return all unused material to the Owner. Provide a detailed summary to the Engineer comparing quantities of material received from the Owner and material to be returned to the Owner. The Owner Project Manager will verify and accept or reject all returned material. Credit the Department for any material rejected by the Owner due to, but not limited to, damage, material loss, or material theft.

##### **2. Material Originating from the Project Site – Existing or Surplus Material:**

All surplus material originating from the project site that is removed and not intended for re-use on the project becomes the property of the Owner. Surplus materials will be inspected and accepted for salvage or designated

waste by the Owner Project Manager. Transport salvaged materials to the Owner. Return all electrical equipment to the Owner. The Owner Project Manager will verify all materials are returned to the Owner.

### **951.3.06 Quality Acceptance**

#### **A. Testing**

Follow all relevant procedures set forth in the documents Owner Standards/Details/Specifications and Related Documents. Ensure Owner Project Manager is present at all inspection and testing. Correct all deficiencies in the Work indicated by testing, inspecting, and as directed by the Engineer or Owner Project Manager.

#### **B. Semi-Final Utility Inspection**

When the contractor has finished the Cable System Work, the Contractor may, by written notice, request that a semi-final utility inspection be made. The Engineer, along with the Owner, will determine if the Cable System Work is ready for semi-final utility inspection. The Engineer, in agreement with the Owner, will have the final decision on when the Cable System Work is complete and thereby ready for semi-final utility inspection. If all the Cable System Work provided for and contemplated by the Contract is found to be complete to the Engineer's satisfaction and all documents required in connection with the Cable System Work has been submitted and accepted then, the Contractor may request transfer of the completed Cable System Work to the Owner.

Once the new facilities are in service and accepted by the Owner, provide written correspondence notifying the Engineer and Owner that utility location services will be the responsibility of said Owner.

Such partial acceptance shall in no way relieve the Contractor of the responsibility for satisfactory completion of the Contract, or for failure of any portion of the Cable System Work prior to Final Acceptance of the Project.

### **951.3.07 Contractor Warranty and Maintenance**

Abide by and honor the following Warranty Statement:

Contractor hereby warrants for a period of one (1) year (or longer, if so provided by law, and to the extent provided by law) from and after the date of Completion of work detailed in the Plans that all labor, workmanship, components, materials or other parts of the Work will be free from defects in material and workmanship under normal use and service. Contractor shall, at its own expense, repair or replace any defective components or parts supplied by Contractor or any Sub-Contractor. In addition, provided that the defect is the result of, or is any way caused by, any act or omission of Contractor or any Sub-Contractor, Contractor shall, at its own expense, repair or replace any defective components or parts supplied by the Owner. Such repairs or replacement parts are warranted for one (1) year from the date of incorporation in the Work or the remainder of the original warranty period, whichever is longer. Contractor will pay all reasonable costs (including without limitation attorneys' fees) incurred by or on behalf of the Owner in identifying a defect found to be the responsibility of Contractor. Upon notice from the Owner, Contractor will immediately correct and remedy any defects occurring during the warranty period without cost or expense to the Owner. Nothing contained herein, however, shall be construed to define or limit the rights of the Owner as otherwise provided by law or elsewhere in the Documents in the event such defects occur. After construction is completed and during the balance of the warranty period, the Owner may choose to have its agents, employees or other contractors perform any required replacement or repairs. If the Owner or its agent performs the repairs or replacement, the Owner shall invoice Contractor for the Owner's reasonable costs, including without limitation, labor costs, and Contractor shall pay the Owner for such costs within thirty (30) days after receipt of an invoice or, at the Owner's option, the Owner may deduct such costs from any Retained Amount or from any amount owed by the Owner or any of its Affiliates to Contractor or any of its Affiliates in connection with this or any other agreement. With respect to installation, Audit or Disconnect work, if the Owner discovers defects in the Work within one (1) year after Completion of the installation, Audit or

Disconnect, the Owner may require Contractor to correct the defects at no expense to the Owner, or may elect to have the Work corrected by the Owner's personnel or other Contractors of the Owner and charge the cost thereof to Contractor as provided above.

General Provisions 101 through 150

#### **951.4 Measurement**

Overhead and underground Cable Systems, and other items of Work in this Specification, in place, operational, and accepted, are measured for payment as follows:

##### **A. Overhead Cable Television**

Overhead Cable Television is measured in linear feet (meter) for the facility installed and accepted. The facility is measured along the centerline of the facility from pole structure to pole structure through all connections, active and passive devices, amplifiers, and all other electrical equipment and shall include the installation of the pole structures, if specified in the Plans, and any materials required by the Owner Standards/Details/Specifications and Related Documents. Measurement will begin and end at existing pole structures where the newly installed Work ties back to the existing facility or specified ending structure. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Overhead Cable System, temporary or permanent.

Obtain measurements with electronic survey equipment and provide Engineer with printout of installed facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure).

##### **B. Overhead Cable (Temporary)**

Temporary Overhead Cable is measured in linear feet (meter) for the facility installed. The facility is measured along the centerline of the facility from pole structure to pole structure through all connections, active and passive devices, amplifiers, and all other electrical equipment and shall include the installation of the pole structures, if specified in the plans, and any materials required by the Owner Standards/Details/Specifications and Related Documents. Measurement will begin and end at existing pole structures where the newly installed Work connects to the existing facility or specified ending structure. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Overhead Cable System, temporary or permanent.

Obtain measurements with electronic survey equipment and provide Engineer with printout of installed facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure).

##### **C. Underground Cable**

Underground Cable is measured in linear feet (meter) for the facility installed. The facility is measured along the center following the existing ground line from structure to structure through pedestals, vaults, junction boxes, and all other electrical equipment and shall include the installation of the pole structures, if specified in the plans, and any materials required by the Owner Standards/Details/Specifications and Related Documents. Measurement will begin and end at existing pole structures, vaults, pedestals, junction boxes, or splice points where the newly installed Work connects to the existing facility. All measurements will begin and terminate at the intersection of the

structure and grade. Measurement for buried facilities that transition up pole structures to tie to the overhead facilities will not be made. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Underground Cable System, temporary or permanent. There will be no separate measurement and payment for directional boring. Include the costs of directional boring in the costs of Underground Cable System, Temporary or Permanent.

Obtain measurements with electronic survey equipment and provide Engineer with printout of installed facilities indicating State Plane Coordinates and station numbers of each underground structure and pole structure and indicate distances between structures starting from the beginning of the Work (existing facility structure).

#### **D. Installation of Poles**

Installation of Steel, Concrete, and Wood Poles will not be measured separately for payment. Steel, Concrete, and Wood Poles are included in the measurement of the Overhead or Underground Cable Television, Permanent or Temporary.

#### **E. Installation of Cable**

Installation of cable for a feeder, trunk, or fiber lines will not be measured separately for payment. Cable is included in the measurement of the Overhead or Underground Cable, Permanent or Temporary.

#### **F. Removal of Overhead Cable, Permanent or Temporary**

Removal of the Overhead Cable is measured in linear feet (meter) for the facility removed. The facility is measured along the centerline of the facility from pole structure to pole structure through all connections, active and passive devices, amplifiers, and all other electrical equipment. Measurement will begin and end at existing pole structures where the Cable facility specified for removal connects to the existing facility to remain. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Overhead Cable System, Temporary or Permanent. There will be no separate measurement and payment for backfilling of voids remaining from removal or replacement of roadway sections. Removal of Cable television service lines will be measured as specified in this Section.

Obtain measurements with electronic survey equipment and provide Engineer with printout of removed facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure).

#### **G. Removal of Underground Cable, Permanent or Temporary**

Removal of Underground Cable is measured in linear feet (meter) for the facility removed. The facility is measured along the center following the existing ground line from structure to structure through pedestals, vaults, junction boxes, and all other electrical equipment, and shall include the removal, if required by the plans, of any materials that are integral to the temporary facility. Measurement will begin and end at existing pole structures or vault structures where the newly installed facility connects to the existing facility. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Underground Cable System, Temporary or Permanent. There will be no separate measurement and payment for backfilling of voids left by removed underground equipment or from removal or replacement of roadway section.

Obtain measurements with electronic survey equipment and provide Engineer with printout of removed facilities indicating State Plane Coordinates and station numbers of each underground structure and pole structure and indicate distances between structures starting from the beginning of the Work (existing facility structure).

#### **H. Removal of Poles**

Removal of Steel, Concrete, and Wood Poles will not be measured separately for payment. Removal is included in the measurement of the removal of Overhead or Underground Cable, permanent or temporary.

#### **I. Material Credit**

Material Credit is a dollar amount credited to the Department for unused or remaining Owner provided materials rejected by the Owner as being damaged or destroyed or materials lost or stolen. The amount will be tabulated based on an itemized list from the Owner and based on unused material remaining from the Work.

### **951.4.01 Limits**

General Provisions 101 through 150

### **951.5 Payment**

The Contract Unit Price for each Item shall include all costs incidental to the construction of the Item according to the Plans, Owner Standards/Details/Specifications and Related Documents, and as specified in this Section. Payment for any Item listed below is full compensation for the Item or Items in place, operational, and accepted.

#### **A. Overhead Cable**

Overhead Cable will be paid for at the contract unit price per linear foot (meter) for the facility installed. Payment is full compensation for handling, delivery, and storage of material and installation of material in accordance with the Plans and Owner Standards/Details/Specifications and Related Documents. Payment is full compensation for necessary handling and delivery of surplus material to the Owner. Payment is full compensation for all the necessary equipment and labor to install the Overhead Cable, including all items necessary and items specified in the Owner Standards/Details/Specifications and Related Documents and Plans. Payment is full compensation for the entire linear feet required to span the portion of the project specified and to tie back to existing facilities. This includes items such as cable, connectors, active and passive devices, amplifiers, poles (wood, steel, or concrete), and any other item(s) necessary to provide for an in place and accepted operational Overhead Cable of the size specified in the Plans and Owner Standards/Details/Specifications and Related Documents.

#### **B. Overhead Cable (Temporary)**

Temporary Overhead Cable will be paid for at the contract unit price per linear foot (meter) for the facility installed. Payment is full compensation for handling, delivery, and storage of materials and installation of materials in accordance with the Plans and Owner Standards/Details/Specifications and Related Documents. Payment is full compensation for any work required to accommodate project staging, detours, or structures not specified for payment elsewhere in the contract. Payment is full compensation for necessary handling and delivery of surplus material to the Owner. Payment is full compensation for all the necessary equipment and labor to install the Temporary Cable, including all items necessary and items specified in the Owner Standards/Details/Specifications and Related Documents and Plans. Payment is full compensation for the entire linear feet required to span the portion of the project specified and to tie back to existing facilities. This includes items such as cable, connectors, active and passive devices, amplifiers, poles (wood, steel, or concrete) and any other item(s) necessary to provide for an in place and accepted operational Overhead Cable of the size specified in the Plans and Owner Standards/Details/Specifications and Related Documents.

### **C. Underground Cable**

Underground Cable will be paid for at the contract unit price per linear foot (meter) for the facility installed. Payment is full compensation for handling, delivery, and storage of material and installation of material in accordance with the Plans and Owner Standards/Details/Specifications and Related Documents. Payment is full compensation for necessary handling and delivery of surplus material to the Owner. Payment is full compensation for all the necessary equipment and labor to install the Underground Cable Television, including all items necessary and items specified in the Owner Standards/Details/Specifications and Related Documents and Plans. Payment is full compensation for the entire linear feet (meter) required to traverse, below grade, the portion of the project specified and to tie back to existing facilities. This includes items such as pole structures, directional boring, wire, conduit, vaults, pedestals, junction boxes, splice points, and any other item(s) necessary to provide for an in place and accepted operational Underground Cable Television of the size specified in the Plans and Owner Standards/Details/Specifications and Related Documents. There will be no separate measurement and payment for directional boring. Include the costs of directional boring in the costs of Underground Cable System, Temporary or Permanent.

### **D. Installation of Poles**

No separate payment will be made for the installation of Steel, Concrete, or Wood Poles. Costs for the installation of poles are included in the price for Overhead or Underground Cable, Permanent or Temporary.

### **E. Installation of Cable Television Wire**

No separate payment will be made for the installation of cable for feeder, trunk, or fiber lines. Costs for the installation of cable are included in the price for Overhead or Underground Cable, Temporary or Permanent.

### **F. Removal of Overhead Cable, Permanent or Temporary**

Removal of Overhead Cable will be paid for at the contract unit price per linear foot (meter) for the facility removed. Payment is full compensation for removal, handling, delivery, storage, and surplus of materials. Payment is full compensation for necessary handling and delivery of surplus material to the Owner. Payment is full compensation for all the necessary equipment and labor to remove the Overhead Cable. Payment is full compensation for the entire linear feet (meter) removed back to existing or new facilities as shown on the Plans. This includes items such as cable, connectors, active and passive devices, amplifiers, poles (wood, steel, or concrete), and any other item(s) necessary for complete removal.

All material removed and not re-used becomes the property of the Owner. Payment for Removal of Overhead Cable Television includes the removal, handling, delivery, and off-loading of all material at a Sunesys Operating Headquarters specified by the Owner Project Manager.

### **G. Removal of Underground Cable, Permanent or Temporary**

Removal of Underground Cable will be paid for at the contract unit price per linear foot (meter) for the facility removed. Payment is full compensation for removal, handling, delivery, storage, and surplus of materials. Payment is full compensation for all the necessary equipment and labor to remove the Underground Cable. Payment is full compensation for the entire linear feet (meter) removed back to existing or new facilities as shown on the Plans. This includes removal of items such as wire, conduit, transformers, vaults, hardware, and any other item(s) necessary for complete removal. All material removed and not re-used becomes the property of the Owner. Payment for Removal of Overhead Cable includes the removal, handling, delivery, and off-loading of all material at a Sunesys Operating Headquarters specified by the Owner Project Manager.

## H. Removal of Poles

No separate payment will be made for the removal of Steel, Concrete, or Wood Poles.

## I. Material Credit

Material Credit is a dollar amount credited to the Department for the value of unused or remaining Owner provided materials rejected by the Owner as being damaged or destroyed or materials lost or stolen. The amount will be tabulated based on an itemized list from the Owner or all Owner provided materials and based on the unused material remaining from the work that was not returned to the Owner or was rejected by the Owner.

Payment will be made under:

Item No. 951	Overhead Cable, Feeder – Coax, ____ in	Per linear foot (meter)
Item No. 951	Overhead Cable, Service, RG6, – Coax, ____ in	Per linear foot (meter)
Item No. 951	Overhead Cable, Service, RG11 – Coax, ____ in	Per linear foot (meter)
Item No. 951	Overhead Cable, Temporary – Coax, ____ in	Per linear foot (meter)
Item No. 951	Overhead Cable, Trunk – Coax, ____ in	Per linear foot (meter)
Item No. 951	Overhead Cable, Fiber, Single mode, ____ count	Per linear foot (meter)
Item No. 951	Underground Cable, Feeder – Coax, ____ in	Per linear foot (meter)
Item No. 951	Underground Cable, Service, RG6, – Coax, ____ in	Per linear foot (meter)
Item No. 951	Underground Cable, Service, RG11 – Coax, ____ in	Per linear foot (meter)
Item No. 951	Underground Cable, Temporary – Coax, ____ in	Per linear foot (meter)
Item No. 951	Underground Cable, Trunk – Coax, ____ in	Per linear foot (meter)
Item No. 951	Underground Cable, Fiber, Single mode, ____ count	Per linear foot (meter)
Item No. 951	Removal of Overhead Cable, Feeder – Coax	Per linear foot (meter)
Item No. 951	Removal of Overhead Cable, Service – Coax	Per linear foot (meter)
Item No. 951	Removal of Overhead Cable, Temporary – Coax	Per linear foot (meter)
Item No. 951	Removal of Overhead Cable, Trunk – Coax	Per linear foot (meter)
Item No. 951	Removal of Overhead Cable, Fiber	Per linear foot (meter)
Item No. 951	Removal of Underground Cable, Feeder – Coax	Per linear foot (meter)
Item No. 951	Removal of Underground Cable, Service – Coax	Per linear foot (meter)
Item No. 951	Removal of Underground Cable, Temporary – Coax	Per linear foot (meter)
Item No. 951	Removal of Underground Cable, Trunk – Coax	Per linear foot (meter)
Item No. 951	Removal of Underground Cable, Fiber	Per linear foot (meter)
Item No. 951	Cable Systems, Material Credit	\$

## **951.5.01 Adjustments**

General Provisions 101 through 150

Office of Utilities

### **References:**

None.

### **History:**

Example of Special Provision 149 replaced: 12/02/14;  
copied to GDOT Publications v.02.00.00: 03/15/12  
Reviewed: 12/2/2014